



United Kingdom of Great Britain and Northern Ireland

EDICT OF GOVERNMENT

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BS NA EN 1991-1-6 (2005) (English): UK National
Annex to Eurocode 1. Actions on structures.
General actions. Actions during execution

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MAGNA CARTA (1297)

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NATIONAL ANNEX

UK National Annex to Eurocode 1: Actions on structures –

**Part 1-6: General actions – Actions
during execution**

ICS 91.010.30

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National Annex (informative) to BS EN 1991-1-6:2005, Eurocode 1: Actions on structures – Part 1-6: General actions – Actions during execution

Introduction

This National Annex has been prepared by BSI Subcommittee B/525/1, *Actions (loadings) and basis of design*. It is to be used in conjunction with BS EN 1991-1-6:2005.

NA.1 Scope

This National Annex gives:

- a) the UK decisions for the Nationally Determined Parameters described in the following subclauses of BS EN 1991-1-6:2005:

1.1(3)

2.2(4) Note 1*

3.1(1)P

3.1(5) Notes 1 and 2

3.1(7)

3.1(8) Note 1

3.3(2)

3.3(6)

4.9(6) Note 2

4.10(1)P

4.11.1(2) Table 4.1**

4.11.2(1) Note 2

4.12(1)P Note 2

4.12(2)

4.12(3)

4.13(2)

Annex A, A1.1(1) Note 2

Annex A, A1.3(2)

Annex A, A2.3(1) Note 1

Annex A, A2.4(2)

Annex A, A2.4(3)

Annex A, A2.5(2)

Annex A, A2.5(3) Note 1

* Not 2 (4) as in BS EN 1991-1-6:2005

** Not 4.11.1(1) Table 4.1 as in BS EN 1991-1-6:2005

- b) the decisions on the status of BS EN 1991-1-6:2005 informative Annex B (see **NA.3**);
- c) references to non-contradictory complementary information (see **NA.4**).

NA.2 Nationally determined parameters

NA.2.1 Design rules for auxiliary construction works

[see BS EN 1991-1-6:2005, **1.1(3)**]

Use the recommended design rules in BS EN 12810, BS EN 12811, BS EN 12812 and TG20:(05) [1], as appropriate and define for the individual project.

NA.2.2 Positioning of construction loads classified as “free”

[see BS EN 1991-1-6:2005, **2.2(4)** Note 1]

The limits of movement for construction loads classified as “free” should be defined for the individual project.

NA.2.3 Design situations corresponding to wind actions during storm conditions

[see BS EN 1991-1-6:2005, **3.1(1)P**]

Use the recommended design situations for wind actions during storm conditions and the BCSA Publication No. 39/05 *Guide to steel erection in windy conditions* [2].

NA.2.4 Return periods for the determination of the characteristic values of variable actions during execution

[see BS EN 1991-1-6:2005, **3.1(5)** Note 1]

The values should be defined for the individual project, using the recommended values as a minimum.

NA.2.5 Minimum wind speed during execution

[see BS EN 1991-1-6:2005, **3.1(5)** Note 2]

The recommended value should be defined for the individual project.

NA.2.6 Rules for the combination of snow loads and wind actions with construction loads

[see BS EN 1991-1-6:2005, **3.1(7)**]

Rules for combination should be defined for the individual project.

NA.2.7 Rules concerning imperfections in the geometry of the structure

[see BS EN 1991-1-6:2005, 3.1(8) Note 1]

The imperfections should be defined for the individual project.

NA.2.8 Criteria associated with serviceability limit states during execution

[see BS EN 1991-1-6:2005, 3.3(2)]

The criteria associated with serviceability limit states should be defined for the individual project.

NA.2.9 Serviceability requirements for auxiliary construction works

[see BS EN 1991-1-6:2005, 3.3(6)]

The recommended rules and values may be appropriate; however, they should be defined for the individual project. See also BS EN 12810, BS EN 12811, BS EN 12812, BS EN 12813 and related codes such as TG20:(05) [1].

NA.2.10 Actions due to ice, including floating ice

[see BS EN 1991-1-6:2005, 4.9(6) Note 2]

The loads and water levels should be defined for the individual project.

NA.2.11 Actions due to atmospheric icing

[see BS EN 1991-1-6:2005, 4.10(1)P]

The representative values of these actions should be defined for the individual project. Guidance may be found in BS EN 1993-1-3 and in ISO 12494.

NA.2.12 Recommended characteristic values of construction loads Q_{ca} and Q_{cb}

[see BS EN 1991-1-6:2005, 4.11.1(2) (Table 4.1)]

Q_{ca} – The characteristic value $q_{ca,k}$ of the uniformly distributed load may be defined for the individual project and a minimum value of 1.00 is recommended.

Q_{cb} – The characteristic values may be defined for the individual project. The recommended minimum values should be used for bridges. For other applications use the recommended rules.

NA.2.13 Construction loads during the casting of concrete

[see BS EN 1991-1-6:2005, 4.11.2(1) Note 2]

The following recommended minimum values should be used for:

Q_{ca} : $q_{ca,k} = 0.75 \text{ kN/m}^2$ as given in Table 4.2

Q_{cc} : $q_{cc,k} = 0.5 \text{ kN/m}^2$ given in Table 4.1.

Alternative values for Q_{ca} and Q_{cc} may be determined for the individual project if a specific assessment is undertaken.

Values for Q_{cf} should be assessed and determined for the individual project taking account of the information provided in Table 4.1 and 4.11.2.

NA.2.14 Dynamic effects due to accidental actions

[see BS EN 1991-1-6:2005, 4.12(1)P Note 2]

Values should be specified for the individual project. The recommended rules and values should be used for determination, although the given value of 2 may be appropriate, subject to assessment. Other specific requirements, such as for shipping, may apply. See also BS EN 1991-1-7:2006 and its National Annex.

NA.2.15 Dynamic effects due to falls of equipment

[see BS EN 1991-1-6:2005, 4.12(2)]

The values should be defined for the individual project.

NA.2.16 Design values of human impact loads

[see BS EN 1991-1-6:2005, 4.12(3)]

The recommended values should be used.

NA.2.17 Seismic actions

[see BS EN 1991-1-6:2005, 4.13(2)]

The design values for ground acceleration and the importance factor γ_1 may be defined for the individual project. See also BS EN 1998 for further information.

NA.2.18 Representative values of the variable actions due to construction loads

[see BS EN 1991-1-6:2005, Annex A, A1.1(1) Note 2]

The recommended values should be used, including those for transient and persistent accompanying actions.

NA.2.19 Characteristic values of equivalent horizontal forces [see

BS EN 1991-1-6:2005, Annex A, A1.3(2)]

The recommended value may be appropriate; however, values should be determined and defined for the individual project.

NA.2.20 Design values of vertical deflections for the incremental launching of bridges

[see BS EN 1991-1-6:2005, Annex A, **A2.3(1)** Note 1]

The recommended values may be appropriate; however, they should be determined and defined for the individual project.

NA.2.21 Reduction of the characteristic value of snow loads

[see BS EN 1991-1-6:2005, Annex A, **A2.4(2)**]

The value should be defined for the individual project and should be the recommended value, if appropriate.

NA.2.22 Reduced values of characteristic snow loads for the verification of static equilibrium

[see BS EN 1991-1-6:2005, Annex A, **A2.4(3)**]

The recommended rules and values should be used.

NA.2.23 Design values of horizontal friction forces

[see BS EN 1991-1-6:2005, Annex A, **A2.5(2)**]

The recommended values may be appropriate; however, they should be determined and defined for the individual project.

NA.2.24 Determination of friction coefficients μ_{\min} and μ_{\max}

[see BS EN 1991-1-6:2005, Annex A, **A2.5(3)** Note 1]

The recommended rules and values for the friction coefficients, μ_{\min} and μ_{\max} may be appropriate; however, they should be determined and defined for the individual project.

NA.3 Decisions on the status of the informative annexes

NA.3.1 Actions on structures during alteration, reconstruction or demolition [BS EN 1991-1-6:2005, Annex B]

Annex B may be used for buildings and most civil engineering works. Annex B may not be used for highway or railway structures unless its use is specified in the individual project.

NA.4 References to non-contradictory complementary information

The following is a list of references that contain non-contradictory complementary information for use with BS EN 1991-1-6:2005.

BS 6187, *Code of practice for demolition*.

BS 5975, *Code of practice for falsework*.

BCSA Publication No. 39/05, *Guide to steel erection in windy conditions*, British Constructional Steelwork Association, London 2005.

Bibliography

Standards publications

BS EN 1991-1-7, *Eurocode 1 – Actions on structures – Part 1-7: General actions – Accidental actions*

BS EN 1993-1-3, *Eurocode 3 – Design of steel structures – Part 1-3: General rules – Supplementary rules for cold-formed members and sheeting*

BS EN 1998 (all parts), *Eurocode 8 – Design of structures for earthquake resistance*

BS EN 12810 (all parts), *Facade scaffolds made of prefabricated components*

BS EN 12811 (all parts), *Temporary works equipment*

BS EN 12812, *Falsework – Performance requirements and general design*

BS EN 12813, *Temporary works equipment – Load bearing towers of prefabricated components – Particular methods of design*

ISO 12494, *Atmospheric icing of structures*

Other publications

[1] NASC TG 20 05, *Technical Guidance on the use of BS EN 12811-1; Guide to Good Practice for Scaffolding with Tubes and Fittings*. National Access and Scaffolding Confederation, London, 2005

[2] BCSA Publication No. 39/05, *Guide to steel erection in windy conditions*, British Constructional Steelwork Association, London, 2005

Further reading

C579, *Retention of masonry facades – best practice guide*. CIRIA: London, 2003

Health and Safety Executive, *The Construction (Design and Management) Regulations 2007*. Statutory Instrument 2007 No. 320. HMSO: London, 2007

Health and Safety Commission, *Managing health and safety in construction – Construction (Design and Management) Regulations 2007 Approved Code of Practice*. HSC: London, 2007

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